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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,496	09/16/2005	Anders Hyltander	10400-000151/US	8521

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EXAMINER	
CARLOS, ALVIN LEABRES	
ART UNIT	PAPER NUMBER
3715	
MAIL DATE	DELIVERY MODE
03/17/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,496	HYLTANDER ET AL.	
	Examiner	Art Unit	
	ALVIN L. CARLOS	3715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Reopening of Prosecution After Appeal Brief or Reply Brief

In view of the appeal brief filed on November 16, 2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111;or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/XUAN M. THAI/

Supervisory Patent Examiner, Art Unit 3715

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5, 7-8, 11-12, 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobus 5769640 in view of Moore 5771181 in view of Rice 6310619.

Re claim 1, Jacobus discloses a method for generating a virtual anatomic environment for use in a computer based visual simulation of minimally invasive surgery (column 2 lines 22-29), comprising providing a main virtual anatomic environment (column 4 lines 10-19).

Jacobus discloses all of the claimed subject matter as discussed above with the exception of disclosing the feature of all of the local anatomic environments of the library being separately modeled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being, selecting a local anatomic environment from a predefined library comprising a set of two or more local anatomic environments, the selection of different combinations of selected local anatomic environments in said main virtual anatomic environment thereby allowing generation of different virtual environments, each different virtual environment representing anatomic variations occurring in living beings including the selected local anatomic environment in said main virtual anatomic environment to form said virtual anatomic environment.

However, Moore teaches all of the local anatomic environments of the library being separately modeled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being (column 3 lines 17-24),

selecting a local anatomic environment from a predefined library comprising a set of two or more local anatomic environments (column 6 lines 56-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus's invention in view of Moore in order to provide a more sophisticated dynamic model that defines the shape and other characteristics of organs and other characteristics of organs and other relevant portions of the landscape that would provide a more realistic real-time patient simulation.

Furthermore, Rice teaches the selection of different combinations of selected local anatomic environments in said main virtual anatomic environment thereby allowing generation of different virtual environments, each different virtual environment representing anatomic variations occurring in living beings including the selected local anatomic environment in said main virtual anatomic environment to form said virtual anatomic environment, (column 2 lines 65-67, column 3 lines 1-36 and column 12 lines 9-11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus in view of Moore invention by incorporating Rice's teaching in order to provide a computer-implemented virtual reality, tissue-specific body model that increases the efficiency and accuracy of anatomical study in an environment having user-variable physical and environmental properties as taught by Rice (column 3 lines 37-40).

Re claim 5, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches the main virtual anatomic

environment is arranged to model an internal cavity of a human and the set of local anatomic environments is arranged to simulate different arrangements of arteries, veins and ducts around an organ arranged in internal cavity (column 5 lines 1-29 and column 12 lines 6-14).

Re claim 7, Jacobus discloses a device for generating a virtual anatomic environment for use in a computer based visual simulation of minimally invasive surgery (column 2 lines 22-29).

Jacobus discloses all of the claimed subject matter as discussed above with the exception of disclosing the feature of a library comprising a set of two or more local anatomic environments, all of the local anatomic environments of the library being separately modeled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being, a modeling device for providing a main virtual anatomic environment and means for incorporating one of the local anatomic environments of the library into the main virtual anatomic environment, together forming said virtual anatomic environment, thereby allowing generation of different virtual environments, each different virtual environment representing anatomic variations occurring in living beings.

However, Moore teaches a library comprising a set of two or more local anatomic environments, all of the local anatomic environments of the library being separately modeled three-dimensional models each representing an individual anatomic variation in a local internal area of a living being (column 3 lines 17-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus's invention in view of Moore in order to provide an effective dynamic model that defines the shape and other characteristics of organs and other characteristics of organs and other relevant portions of the landscape that would produce a more realistic real-time patient simulation.

Furthermore, Rice teaches a modeling device for providing a main virtual anatomic environment (column 5 lines 30-45), means for incorporating one of the local anatomic environments of the library into the main virtual anatomic environment, together forming said virtual anatomic environment, thereby allowing generation of different virtual environments, each different virtual environment representing anatomic variations occurring in living beings (column 5 lines 46-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus's invention in view of Rice in order to provide a computer-implemented virtual reality, tissue-specific body model that increases the efficiency and accuracy of anatomical study in an environment having user-variable physical and environmental properties as taught by Rice (column 3 lines 37-40).

Re claim 8, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches a selection device for selecting one of local anatomic environments from library to be included in virtual anatomic environment (column 6 lines 62-67 and column 7 lines 1-7).

Re claim 11, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches the main virtual

anatomic environment is arranged to model an internal cavity of a human (column 12 lines 6-14), the set of local anatomic environments is arranged to simulate different arrangements of arteries, veins and ducts around an organ arranged in internal cavity (column 5 lines 1-12).

Re claim 12, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches a device for generating a virtual anatomic environment (column 5 lines 30-45).

Re claims 14 and 15, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Jacobus discloses selecting a certain local anatomic environments from the library and including it into main virtual anatomic environment by user selection (column 3 lines 57-67).

Re claim 16, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches the main virtual anatomic environment is arranged to model an internal cavity of a human (column 12 lines 6-14), the set of local anatomic environments is arranged to simulate different arrangements of arteries, veins and ducts around an organ arranged in internal cavity (column 5 lines 1-12).

Re claims 17 and 18, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches the main virtual anatomic environment is arranged to model an internal cavity of a human (column 12 lines 6-14), the set of local anatomic environments is arranged to simulate

different arrangements of arteries, veins and ducts around an organ arranged in internal cavity (column 5 lines 1-12).

Re claims 19 and 20, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above. In addition, Rice teaches a device for generating a virtual anatomic environment (column 5 lines 30-45).

3. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobus 5769640 in view of Moore 5771181 in view of Rice 6310619 and further in view of Pugh 6428323.

Re claims 21 and 22, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above with the exception of disclosing the feature of components included in the local anatomic environment are excluded in the main virtual anatomic environment.

However, Pugh teaches components included in the local anatomic environment are excluded in the main virtual anatomic environment (column 3 lines 35-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus in view of Moore in view of Rice invention and further in view of Pugh in order to provide an economical medical training that would be useful for any type of medical examination within an anatomical space.

4. Claims 3-4, 6, 9-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobus 5769640 in view of Moore 5771181 in view of Rice 6310619 and further in view of Kurzweil 6692258.

Re claim 3, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above with the exception of disclosing the feature of randomly selecting one of the local anatomic environments in the library.

However, Kurzweil teaches randomly selecting one of the local anatomic environments in the library (column 8 lines 47-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus in view of Moore in view of Rice invention and further in view of Kurzweil in order to provide an effective medical training that produce realistic real-time patient simulation.

Re claim 4, Jacobus in view of Moore in view of Rice discloses all of the claimed subject matter as discussed above with the exception of disclosing the feature of the probability of randomly selecting a certain local anatomic environment essentially corresponds with the degree of occurrence of that local anatomic environment in living beings.

However, Kurzweil teaches the probability of randomly selecting a certain local anatomic environment essentially corresponds with the degree of occurrence of that local anatomic environment in living beings (column 8 lines 38-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jacobus in view of Moore in view of Rice invention and further in view of Kurzweil in order to provide an effective medical training that produce realistic real-time patient simulation.

Re claim 6, Jacobus in view of Moore in view of Rice and further in view of Kurzweil discloses all of the claimed subject matter as discussed above. In addition, Moore teaches selecting a certain local anatomic environments from the library and including it into main virtual anatomic environment by user selection (column 6 lines 56-60).

Re claim 9, Jacobus in view of Moore in view of Rice and further in view of Kurzweil discloses all of the claimed subject matter as discussed above. In addition, Kurzweil teaches randomly select one of local anatomic environments from the library to be included in virtual anatomic environment (column 8 lines 47-53).

Re claim 10, Jacobus in view of Moore in view of Rice and further in view of Kurzweil discloses all of the claimed subject matter as discussed above. In addition, Kurzweil teaches randomly select one of local anatomic environments in a way that the probability of selecting a certain local anatomic environment essentially corresponds with the degree of occurrence of that local anatomic environment in human beings (column 8 lines 38-53).

Re claim 13, Jacobus in view of Moore in view of Rice and further in view of Kurzweil discloses all of the claimed subject matter as discussed above. In addition, Kurzweil teaches randomly selecting one of the local anatomic environments in the library (column 8 lines 47-53).

Response to Arguments

5. Applicant's arguments with respect to claims 1 and 3-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as per the attached Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN L. CARLOS whose telephone number is (571)270-3077. The examiner can normally be reached on 7:30am-5:00pm EST Mon-Fri (alternate Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571)272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alvin L Carlos/
Examiner, Art Unit 3715
March 13, 2010

/XUAN M. THAI/
Supervisory Patent Examiner, Art Unit 3715